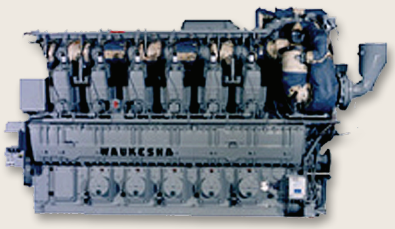


Reciprocating Engine

Gas Technology Institute
CHP Packaged System Team

Benefits of CHP

Capital Cost Reduction
Packaged systems can cut CHP system capital costs by 15% to 30%

Shorter & Less Expensive Installation
IES can reduce CHP system installation time by as much as two-thirds, and provide corresponding installation cost savings.

Replicability
System designs are suitable for multiple applications in facilities around the country.

Optimize Facility Energy Use
Packaged systems allow facility operators to manage power generation, cooling and heating to optimize energy use as well as reduce electricity use during peak periods.

Simplified Systems
The use of exhaust-fired absorption chillers eliminates the need for steam/hot water generation equipment.

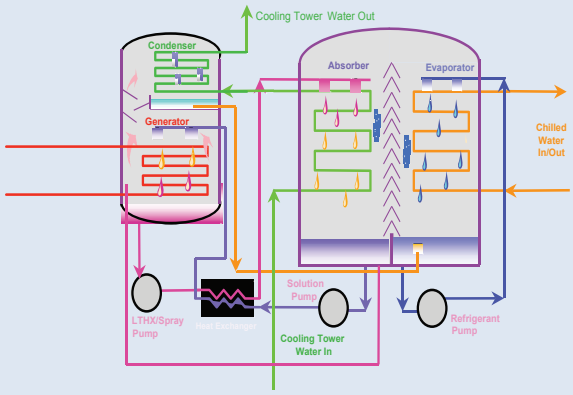
Adaptability
This system is easily adaptable and is already optimized for a variety of customer facilities.

Experience the Benefits – Become a Demonstration Site

Considering a CHP system? The U.S. Department of Energy is looking for businesses interested in serving as demonstration sites for packaged CHP systems. For more information, please visit www.eere.energy.gov/chp/hospitals.

Project Overview

The Gas Technology Institute, Waukesha, the Trane Company, Ballard Engineering, Inc., Charles Equipment Co., and the University of Illinois at Chicago have teamed to develop and demonstrate a modularized "plug-and-play" Integrated Energy System (IES) that will supply electricity, hot water, and chilled water to facilities. The team is using market analysis to guide development of this system so that commercialization will be expedited.



Absorption chillers are being developed and tested using a 90-ton chiller for inclusion in packaged systems.

gti Gas Techology Institute | DRESSER Waukesha | TRANE | Ballard ENGINEERING | UIC ERC University of Illinois at Chicago

Objectives

- Match engine generators in the 290 kW – 770 kW size range with absorption chillers to achieve optimal performance
- Develop modular systems in a range of sizes to optimize performance for a variety of energy customers in a number of different building types and locations.
  - To date, team has developed 45 target building/location load profiles
- Demonstrate prototype system(s) in one or more target applications.

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DER DISTRIBUTED ENERGY RESOURCES